

## **Remarks**

Claims 1–20, as originally filed, are pending. Claims 1-20 are rejected. Claim 4 stands rejected under 35 U.S.C. §112 as being indefinite. Claims 1 and 10 stand rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,296,114 to Manz. Claims 1-20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,755,942 to Zanzucchi, et al. in view of PCT published application number WO 00/02038 to Roach, et al. The drawings are objected to.

The application has been amended. Claim 4 has been amended. Formal drawings were prepared and accompany this reply. Applicant respectfully asserts that the amendment does not constitute new matter in contravention of 35 U.S.C. §132 and request its entry. Reconsideration of the grounds for rejection is respectfully requested.

The drawings are objected to by the Examiner as “failing to comply with 37 CFR 1.84(p)(4) because reference character ‘22’ has been used to designate both a channel segment and a well in Figure 2.” Applicant respectfully disagrees. Applicant respectfully points out that both reference characters “22” refer to a channel segment, and the wells in Figure 2 are referenced as 18, 24, 26 and 28, respectively.

The drawings are also objected to by the Examiner, “because many of the lines are too faint.” Formal drawings have been prepared and are enclosed herewith.

Applicant respectfully asserts that no new matter is introduced in the formal drawings and earnestly requests their entry.

Claim 4 stands rejected under 35 U.S.C. §112, second paragraph, as “being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” Specifically, the Examiner states, “(c)laim 4 recites the limitation “loading segment” in line 3. There is insufficient antecedent basis for this limitation in the claim.”

In response, Applicant has amended claim 4 to be dependent upon claim 3. Applicant respectfully asserts the Examiner’s rejection cannot be sustained and should be withdrawn.

Claims 1 and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 5,296,114 to Manz. This rejection is respectfully traversed.

The Examiner states, “Manz teaches a shaped microfabricated capillary array electrophoresis chip ...comprising a planar substrate ... having a first major surface defining converging first and second elongate separate channels, wherein each separation channel section extends between an associated cathode port and an anode port defined by the first major surface.” The Examiner continues, “the substrate further comprises a first perimetrical edge segment extending substantially along the first separation channel section; and a second perimetrical edge segment extending substantially along the second

separation channel section.” The Examiner further states that “Manz teaches that the chip does not have to be rectangular; he teaches a general n-sided figure, which preferably has at least three sides.”

Applicant respectfully points out to the Examiner the differences between the current invention and the Manz invention. The current invention relates to a shaped microfabricated capillary array electrophoresis chip comprising a planar substrate having a first major surface defining converging first and second elongate separation channels (the first and second separation channels in the current invention come together towards a common point), wherein each said separation channel extends between an associated cathode port and an anode port defined by said first major surface, wherein said substrate further comprises a first perimetrical edge segment extending substantially along said first separation channel, and a second perimetrical edge segment extending substantially along said second separation channel.

Applicant respectfully points out that the Manz invention discloses a shaped microfabricated capillary array electrophoresis chip comprising a channel, constructed in the form of an n-sided closed loop figure (the Abstract; Figure 1; and col. 6 ll.38-42). Applicant submits that Manz does not teach, or even suggest, a shaped microfabricated capillary array electrophoresis chip having a first major surface defining converging first and second elongate separate channels. In view of the foregoing, Applicant submits that claim 1 is not anticipated by Manz. Further, since Manz does not teach “a shaped capillary electrophoresis chip having a first major surface, converging first and second

elongate separation channels, and first and second perimetrical edge segments,”

Applicant respectfully submits that claim 10 is not anticipated by Manz.

In view of the foregoing, Applicant submits that the Examiner’s rejection cannot be sustained and respectfully requests its withdrawal.

The Examiner has rejected claims 1–20 under 35 U.S.C. § 103(a), as “being unpatentable over Zanzucchi et al. (5,755,942) (hereinafter ‘942) in view of Roach et al. (WO 00/02038 A1).” Specifically, the Examiner states, “Zanzucchi et al. teaches a shaped microfabricated capillary array electrophoresis chip ... comprising a planar substrate ... having a first major surface defining a first channel ... .” The Examiner further states, “Zanzucchi et al. does not mention having a second channel on the first surface that converges with the first channel, although it should be noted that Zanzucchi et al. does teach having more than one channel on the first surface.” The Examiner continues, “Roach et al. teaches an electrophoresis chip comprising a plurality of converging elongate separation channels.” The Examiner also states, “the radial configuration of elongate separation channels taught by Roach et al. is advantageous because ‘no bends or turns are present between the injection region and the detection region’.” Applicant respectfully traverses this rejection.

In response, Applicant respectfully points out to the Examiner that WO 00/02038 A1 by Roach, et al. was published by the International Bureau on January 13, 2000, two months before the effective filing date of March 14, 2000, of the captioned application.

As such, Applicant respectfully asserts, it can only be art under 35 U.S.C. § 102(a). Since it does not designate the United States, WO 00/02038 will not qualify as a 35 U.S.C. § 102(e) reference. A signed and dated "Declaration of Prior Invention in the United States or in a NAFTA or WTO Country to Overcome Cited Patent or Publication 37 CFR § 131" is enclosed with this reply. The Declaration clearly shows that the Applicant had possession of the current invention before the publication date of the WO 00/02038 A1 application. Accordingly, the Roach, et al. reference does not qualify as prior art under 35 U.S.C. § 102(a).

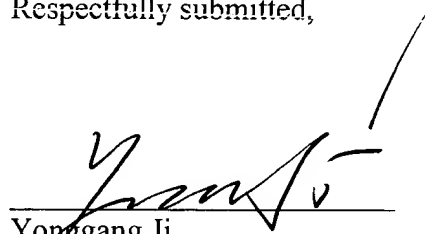
Therefore, as the Examiner stated, "Zanzucchi et al. does not mention having a second channel on the first surface that converges with the first channel," and the Roach, et al. reference is not properly citable as prior art, Applicant respectfully asserts the Examiner's rejections of claims 1-20 cannot be sustained and should be withdrawn.

Applicant also wishes to call the Examiner's attention to the fact that the current invention and the Roach, et al. application were, at the time the invention of the current application was made, owned by Molecular Dynamics, Inc., which is now Amersham Biosciences (SV) Corp. The corresponding United States patent application number 09/109,676 of the Roach, et al. published PCT application has recently been allowed. It is the Applicant's believe that the common ownership (35 U.S.C. § 103(c)) disqualifies the Roach, et al. soon to issue US patent as prior art under 35 U.S.C. § 102(e).

In view of the foregoing, Applicant respectfully asserts the Examiner's rejections cannot be sustained and should be withdrawn. Applicant believes that the claims, as amended, are in allowable form and earnestly solicit the allowance of claims 1-20.

Early and favorable consideration is requested.

Respectfully submitted,

  
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on August 6, 2003.

Signature: 

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